

**REMARKS**

In the Office Action dated March 13, 2003, the Examiner has *finally rejected* claims 1-18 and 50-56 and has objected to claims 57-58. By the present amendment and response, Applicant has added new claims 59 and 60 which are independent forms of claims 57 and 58, respectively. Thus, claims 1-18 and 50-60 remain in the present application and claims 59 and 60 are allowable according to the Examiner's comment on page 8 of the Office Action. As discussed below, Applicant respectfully requests the withdrawal of the finality of the rejection of outstanding claims 1-18 and 50-58 and their reconsideration and allowance in light of Applicant's comments below.

Applicant respectfully requests reconsideration and withdrawal of the finality of the rejection of the Office Action dated March 13, 2003. A good and sufficient reason why the present response is necessary and was not earlier presented is that entirely new references have been cited in the present final rejection dated March 13, 2003 (37 CFR §1.116(c)). The new references are Yiannoulos (USPN 5,942,775) (hereinafter "Yiannoulos") and Hsieh, et al. (USPN 6,448,595) (hereinafter "Hsieh") which are for the first time brought to Applicant's attention by means of the present *final rejection* dated March 13, 2003. The new references, i.e. Yiannoulos and Hsieh, were not cited in the present application prior to the instant final rejection. Since Yiannoulos and Hsieh are new references upon which the Examiner has now relied, Applicant believes that it would be manifestly unfair for the Patent Office not to consider Applicant's arguments, which are necessitated due to the newly cited references, Yiannoulos and Hsieh.

The Examiner has rejected claims 1-9, 17-18, and 50-54 under 35 USC §103(a) as being unpatentable over Yiannoulos in view of Hsieh. For the reasons discussed below, Applicant respectfully submits that the present invention, as defined by independent claims 1 and 50, is patentably distinguishable over Yiannoulos and Hsieh, either singly or in combination.

The present application discloses and claims a sensor having a transistor with a gate located partially over a source and partially over a drain. See independent claims 1 and 50. The present application further discloses and claims two different work functions for a gate having N type and P type gate regions over the channel, so as to increase the threshold of the transistor, avoid soft reset, and reduce junction leakage. See independent claim 55.

The Examiner acknowledges that Yiannoulos does not disclose the sensor claimed in independent claims 1 and 50 of the present application in that Yiannoulos does not disclose a gate located partially over a source and partially over a drain as required by claims 1 and 50. However, the Examiner relies on Hsieh as having made such sensor obvious. Applicant respectfully submits that such sensor limitation is not disclosed or suggested in Hsieh. Applicant calls Examiner's attention to Figures 2D and 2F and column 5, lines 12-20 and lines 33-41 in Hsieh. For example, Hsieh states that "As shown in FIG. 2D, photolithographic and teaching processes are carried out to remove a portion of the oxide cover layer 216 and to expose the substrate 200 in the source/drain regions 212 and 213." See column 5, lines 12-15 of Hsieh. It is thus manifest that Hsieh

forms its source/drain regions 212 and 213 aligned with gate conductive layer 206a.

Thus, source/drain regions 212 and 213 are designed to self-align with the gate and the gate does not partially cover the source and drain regions as required by claims 1 and 50. As such, the invention claimed in independent claims 1 and 50 and claims 2-18 and 51-54, depending respectively therefrom, is patentably distinguishable over Yiannoulos and Hsieh, either singly or in combination.

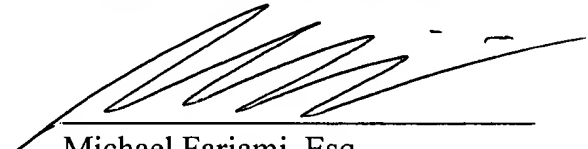
The Examiner has also rejected claims 55-58 under 35 USC §103(a) as being unpatentable over Yiannoulos in view of Hsieh and further in view of Fratin, et al. (USPN 5,977,591) (hereinafter "Fratin"). Applicant respectfully submits that Fratin does not disclose a split N type and P type gate for the purpose of increasing threshold and avoiding soft reset in a sensor. Moreover, Fratin cannot be combined with Yiannoulos and Hsieh to result in "a well region formed to contain one of the source and the drain and to extend partially beneath the gate such that the well region extends a length of one of the n-type and the p-type gate regions," as required by independent claim 55. As such, the present invention as claimed by independent claim 55 and claims 56-58 depending therefrom is patentably distinguishable over Yiannoulos, Hsieh, and Fratin, either singly or in combination.

Based on the foregoing reasons, the present invention, as defined by independent claims 1, 50, and 55 and claims 2-17, 51-54, and 56-58, depending respectively therefrom, is patentably distinguishable over the art cited by the Examiner. Thus, claims 1-18 and 50-58 pending in the present application are patentably distinguishable over the

art cited by the Examiner. Moreover, according to the Examiner's comment on page 8 of the present Office Action, new claims 59 and 60 are allowable since they are independent forms of claims 57 and 58, respectively. As such, and for all the foregoing reasons, the withdrawal of the finality of the present rejection and an early Notice of Allowance directed to claims 1-18 and 50-60 remaining in the present application are respectively requested.

Respectfully Submitted,  
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